EXHIBIT 3

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS MARSHALL DIVISION

TQ DELTA, LLC,

Plaintiff,

v.

COMMSCOPE HOLDING COMPANY, INC., COMMSCOPE INC., ARRIS US HOLDINGS, INC., ARRIS SOLUTIONS, INC., ARRIS TECHNOLOGY, INC., and ARRIS ENTERPRISES, LLC

Defendants.

CIV. A. NO. 2:21-CV-310-JRG (Lead Case)

TQ DELTA, LLC,

Plaintiff,

v.

NOKIA CORP., NOKIA SOLUTIONS AND NETWORKS OY, and NOKIA OF AMERICA CORP.,

Defendants.

CIV. A. NO. 2:21-CV-309-JRG (Member Case)

NOKIA OF AMERICA CORP.,

Third-Party Plaintiff,

v.

BROADCOM CORP., BROADCOM INC., and AVAGO TECHNOLOGIES INTERNATIONAL SALES PTE. LTD.,

Third-Party Defendants.

DEFENDANTS' PRELIMINARY PROPOSED CONSTRUCTIONS AND IDENTIFICATION OF EXTRINSIC EVIDENCE [PATENT RULE 4-2]

Pursuant to the Docket Control Order (Dkt. No. 62) and Patent Rule 4-2, Defendants Nokia of America Corporation, Nokia Corporation, Nokia Solutions and Networks Oy (collectively, "Nokia"), and CommScope Holding Company, Inc., CommScope Inc., ARRIS US Holdings, Inc.,

ARRIS Solutions, Inc., ARRIS Technology, Inc., and ARRIS Enterprises, LLC (collectively, "CommScope") (together, "Defendants") hereby identify the following proposed constructions and extrinsic evidence.

In particular, Defendants herein identify preliminary proposed constructions of each claim term, phrase, or clause which the parties have collectively identified for claim construction purposes. Defendants also herein provide a preliminary identification of extrinsic evidence to support their proposed constructions.

I. Preliminary Statement and Reservation of Rights

The following preliminary proposed constructions do not waive any argument, such as, for example, that an Asserted Claim is indefinite or is otherwise invalid under one or more of 35 U.S.C. §§ 101, 102, 103, and/or 112, as detailed in Defendants' Invalidity Contentions, and any supplements thereto. For example, Defendants reserve the right to argue that a particular claim term is indefinite and/or fails to satisfy the written description and enablement requirements, regardless of whether the term has been proposed for construction, has not been proposed for construction, and/or was initially proposed for construction but has since been dropped from the terms proposed for construction.

If TQ Delta modifies any assertion or contention in its Infringement Contentions, or presents any new assertion or contention relevant to these Preliminary Claim Constructions to the extent allowed by the Local Patent Rules or the Court, Defendants reserve the right to supplement or otherwise amend these Preliminary Claim Constructions. The Infringement Contentions are deficient in multiple respects and do not provide Defendants with sufficient information to understand the specific accused features and components and the alleged factual and evidentiary bases for TQ Delta's infringement allegations. Among other things, the Infringement Contentions lack the specificity required by P.R. 3-1, fail to properly identify

accused instrumentalities, and fail to explain adequately Plaintiff's infringement theories for numerous limitations. TQ Delta has prejudiced Defendants' ability to understand, for purposes of preparing these Preliminary Claim Constructions, what TQ Delta alleges to be the scope of the Asserted Claims.

Defendants reserve the right to amend or otherwise supplement the preliminary proposed constructions that are provided herein, including after receiving additional discovery in this matter, and also in response to the preliminary proposed constructions that are being concurrently proposed in the Patent Rule 4-2 Disclosure of Plaintiff in this case.

II. Preliminary Claim Construction (P.R. 4-2(a))

Pursuant to Patent Rules 4-2(a) and 4-2(b), Defendants provide the attached **Appendix A.** Appendix A identifies claim terms, phrases, and clauses proposed for construction, including whether TQ Delta or Defendants proposed the term in their respective P.R. 4-1 statements. Identification of a term, phrase, or clause for construction applies equally to variations or other instances of that term, phrase, or clause in any of the asserted claims in the asserted patents, unless otherwise stated. Appendix A then identifies a list of exemplary claims within which the term, phrase, or clause is found.

The identified claims listed in this disclosure are representative. A construction of a term, phrase, or clause applies equally to variations or other instances of that term, phrase, or clause in any of the asserted claims in the asserted patents. Furthermore, to the extent a term, phrase, or clause renders a claim indefinite, all claims depending from that claim are similarly indefinite.

III. Identification of Extrinsic Evidence (P.R. 4-2(b))

Appendix A provides exemplary supporting evidence. Defendants reserve the right to amend or otherwise supplement their identification of supporting evidence that may be used to

support, describe, or explain Defendants' preliminary proposed claim constructions. Defendants further reserve the right to identify additional supporting evidence to offer in rebuttal to Plaintiff's proposed constructions, including expert testimony. Defendants further reserve the right to identify additional extrinsic evidence that is obtained through further discovery in this matter, including deposition testimony obtained from any third parties (such as named inventors and/or any expert witnesses).

Identification of a reference as supporting evidence is not an admission that the reference is "extrinsic," as opposed to "intrinsic," evidence. While it is not extrinsic evidence, Defendants may also rely on the file histories of the patents in suit and the file histories of any domestic or foreign related patents. Defendants may also rely on TQ Delta's Infringement Contentions and materials cited therein, and Defendants' Invalidity Contentions and materials cited therein. Further, Defendants may rely on any declarations, reports, or testimony by the named inventors or experts on behalf of TQ Delta in this case, other cases, or Patent Office proceedings, regarding the asserted technology. Defendants may also rely on any claim construction briefs, declarations, transcripts, orders, and memorandum opinions in any other case in which TQ Delta alleged infringement of one or more of the Asserted Patents.

Pursuant to Patent Rule 4-2(b), Defendants state that they may offer the testimony of one or more of the following expert witnesses: Bruce McNair, Dr. George Zimmerman, and/or Dr. Richard Wesel ("Experts"). Experts may be asked to offer their expert opinion in the form of expert declaration(s)—consistent with the requirements of Patent Rule 4-3—regarding how (or if) one of ordinary skill in the art at the time of the claimed inventions of the Asserted Claims would have understood certain claim terms proposed for construction, depending on whether such terms are, in fact, disputed following review of the parties' Patent Rule 4-2

Disclosures. Experts may also be asked to provide background and context regarding the technology at issue, including, but not limited to, the level of ordinary skill in the art, in an effort to assist the Court in understanding the technology in dispute from the perspective of one of ordinary skill at the relevant time. In providing any such background, Experts may rely on the extrinsic evidence identified in this document, as well as any other background material to explain the knowledge of a person of ordinary skill at the time. In opining about the meaning of disputed terms of the Asserted Claims, Experts may be asked to explain how Defendants' proposed constructions are supported by intrinsic evidence, extrinsic evidence, and/or the education and experience of a person of ordinary skill in the art relevant to the Asserted Patents.

Experts may also be asked to respond to TQ Delta's proposed constructions, supporting evidence, and arguments and evidence (including expert testimony) relied upon in TQ Delta's claim construction briefs. Experts may also be asked to provide opinions regarding indefiniteness of the asserted claims.

Defendants reserve the right to ask Experts to opine on any claim construction issue for which Plaintiff may provide expert testimony. Defendants further reserve the right to call Experts as live witnesses at the Claim Construction Hearing should Plaintiff request, and be permitted, to call any live witnesses at the Claim Construction Hearing.

IV. Availability to Meet and Confer (P.R. 4-2(c))

Pursuant to Patent Rule 4-2(c), Defendants will be available to "meet and confer for the purposes of narrowing the issues and finalizing preparation of a Joint Claim Construction and Prehearing Statement" in advance of the current due date for the parties' joint Patent Rule 4-3 filing.

Dated: March 3, 2022 Respectfully submitted,

/s/ M. Scott Stevens

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing document was served electronically on March 3, 2022, on all counsel who have consented to electronic service.

/s/ *M. Scott Stevens*M. Scott Stevens

APPENDIX A

I. Family 1

Claim Term	Patent and Claim(s)	Proposed By	Proposed	Extrinsic Evidence ¹
			Construction	
transceiver	'686 Patent, Claims 17,	Defendants	P&O, which i	1998 & 2004 Merriam-
	36, 40		"communications	Webster Dictionary
			device capable o	
			transmitting and	
			receiving data"	transmitter-receiver that
				uses many of the same
				components for both
				transmission and reception
				2002
				2002 McGraw-Hill
				Dictionary of Scientific
				and Technical Terms definition of "transceiver":
				A radio transmitter and
				receiver combined in one
				unit and having switching
				arrangements such as to
				permit both transmitting
				and receiving
				U.S. Patent No. 7,844,882
				at 5:33-57

¹ As noted above, Defendants also intend to rely on testimony from experts as identified above in addition to the references listed explicitly in this column.

				ITU-T G.993.2 VDSL2 Standard ITU-T G.992.1 ADSL Standard
DMT symbol	'686 Patent, Claims 17, 36, 40	Defendants	P&O meaning	ITU-T G.993.2 VDSL2 Standard
each bit in the diagnostic message is mapped to [at least one / one] DMT symbol	'686 Patent, Claims 17, 36, 40	Defendants	Indefinite	2002 McGraw-Hill Dictionary of Scientific and Technical Terms definition of "map": 2002 McGraw-Hill Dictionary of Scientific and Technical Terms definition of "map": An output produced by an assembler, compiler, linkage editor, or relocatable loader which indicates the (absolute or relocatable) locations of such elements as programs, subroutines, variables, or arrays. 2002 McGraw-Hill Dictionary of Scientific

and technical terms definition of "map": Preparation of a map or engaging in a mapping operation. 1. Any function or multiple-valued relation. Wikipedia.com definition of "map": This terminology is not completely fixed, as these terms are generally not formally defined, and can be considered to be jargon. Google definition of "mapped": "associate (a group of elements or qualities) with an equivalent group, according to a particular formula or model" ITU-T G.993.2 VDSL2 Standard ITU-T G.992.1 ADSL Standard			and Tashnisal Tarres
Preparation of a map or engaging in a mapping operation. 1. Any function or multiple-valued relation. Wikipedia.com definition of "map": This terminology is not completely fixed, as these terms are generally not formally defined, and can be considered to be jargon. Google definition of "mapped": "associate (a group of elements or qualities) with an equivalent group, according to a particular formula or model" ITU-T G.993.2 VDSL2 Standard ITU-T G.992.1 ADSL			and Technical Terms
engaging in a mapping operation. 1. Any function or multiple-valued relation. Wikipedia.com definition of "map": This terminology is not completely fixed, as these terms are generally not formally defined, and can be considered to be jargon. Google definition of "mapped": "associate (a group of elements or qualities) with an equivalent group, according to a particular formula or model" ITU-T G.993.2 VDSL2 Standard ITU-T G.992.1 ADSL			
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according to a particular formula or model" ITU-T G.993.2 VDSL2 Standard ITU-T G.992.1 ADSL			
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Standard ITU-T G.992.1 ADSL			
Standard ITU-T G.992.1 ADSL			ITU-T G.993.2 VDSL2
ITU-T G.992.1 ADSL			
			ITU-T G.992.1 ADSL

frequency domain received idle channel noise information	'686 Patent, Claims 17, 36, 40	Defendants	Indefinite	
array representing frequency domain received idle channel noise information		Plaintiff	If "frequency domain received idle channel noise information" is not indefinite, then "array of values representative of noise in the frequency domain that was received by a transceiver on respective subchannels in the absence of a transmission signal"	

II. Family 2

Claim Term	Patent(s) and Claim(s)	Proposed By	Proposed Construction	Extrinsic Evidence
transceiver	'881 Patent, Claims 17,	Defendants	P&O, which is	Extrinsic Evidence: See
	18, 21, 23, 25, 26, 29, 31,		"communications device	Family 1
	33, and 37		capable of transmitting	
			and receiving data"	
	'193 Patent, Claims 1, 9,			
	10, 11, 12, 13			
	'601 Patent, Claims 8, 9,			
	13, 14, 15, 16, 17, 18, 21			
	'014 Patent, Claims 1, 3			
plurality of bonded	'881 Patent, Claims 17,	Defendants	two or more	
transceivers	18, 21, 23, 25, 26, 29, 31,		transceivers, located on	
	33, 37		the same side of two or	
			more physical links and	
			each corresponding to	
			one of the physical	
			links, coordinated to	
			transmit or receive a	
			different portion of the	
			same bit stream via a	
			different one of the	
			physical links	
operable to	'193 Patent, Claim 13	Defendants	Plain and ordinary	
			meaning, not mere	
	'601 Patent, Claims 8,		capability	
	14, 21			
	'014 Detent Claim 1			
	'014 Patent, Claim 1			

reduce a difference in latency between the bonded transceivers	'881 Patent, Claims 17, 25, 26, 29, 31, 33, 37	Defendants	Indefinite, or, if not indefinite, "minimize the difference in the configuration latencies between the bonded transceivers"	'706 Patent File History Office Action dated 1/10/2011; Amdmt and Response Dated 2/11/2011. '511 Patent File History Office Action dated 2/15/2011; Amdmt and Resp. dated 8/11/2011; Office Action dated Nov. 18, 2011; Amdmt dated May 14, 2012
each bonded transceiver utilizing at least one transmission parameter value to reduce a difference in latency between the bonded transceivers	'881 Patent, Claims 17, 25, 26, 29, 31, 33, 37	Defendants	Indefinite, or, if not indefinite, "each bonded transceiver configured with at least one transmission parameter value to minimize the difference in the configuration latencies between the bonded transceivers"	 Office Action dated 1/10/2011; Amdmt and Response Dated 2/11/2011. '511 Patent File History – Office Action dated
utilize at least one transmission parameter value, for each transceiver in a plurality of bonded	'881 Patent, Claims 33, 37	Defendants	Indefinite, or, if not indefinite, "configure at least one transmission parameter value of each bonded transceiver to	- Office Action dated 1/10/2011; Amdmt and

transceivers, to reduce a difference in latency between the bonded transceivers			minimize the difference in the configuration latencies between the bonded transceivers"	'511 Patent File History Office Action dated 2/15/2011; Amdmt and Resp. dated 8/11/2011; Office Action dated Nov. 18, 2011; Amdmt dated May 14, 2012
utilize at least one parameter associated with operation of at least one of the first and second transceivers to reduce a difference in latency between the first and second transceivers	'601 Patent, Claims 14,	Defendants	Indefinite	'706 Patent File History Office Action dated 1/10/2011; Amdmt and Response Dated 2/11/2011. '511 Patent File History Office Action dated 2/15/2011; Amdmt and Resp. dated 8/11/2011; Office Action dated Nov. 18, 2011; Amdmt dated May 14, 2012

III. Family 3

Claim Term	Patent(s) and Claim(s)	Proposed By	Proposed Construction	Extrinsic Evidence
transceiver	'882 Patent, Claims 9, 13 '048 Patent, Claims 1, 5 '5473 Patent, Claims 10, 28 '608 Patent, Claims 1, 2, 3, 4 '510 Patent, Claims 21, 22	Defendants	Plain and ordinary meaning, which is "communications device capable of transmitting and receiving data"	See Family 1
shared memory / sharing the memory / operable to be shared / sharing	'882 Patent, Claims 9, 13 '048 Patent, Claims 1, 5 '5473 Patent, Claims 10 '510 Patent, Claims 21, 22 '608 Patent, Claim 2	Plaintiff and Defendants	Plain and ordinary meaning	U.S. Patent No. 9,547,608

wherein the generated	'5473 Patent, Claims	Defendants	Plain and ordinary	
message indicates how	10, 28	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	meaning, which is that the	
the memory has been	10, 20		message indicates the	
allocated between the			amount of memory [that	
[first deinterleaving /			has been allocated to / is	
interleaving] function			to be used by] the [first	
and the [second]			deinterleaving /	
deinterleaving function"			interleaving] function and	
/ "a message indicating			the amount of memory	
how the shared memory			[that has been allocated to	
is to be used by the			/ is to be used by] the	
interleaver or the			[second] deinterleaving	
deinterleaver			function	
operable to	'608 Patent, Claims	Defendants	Plain and ordinary	
	1, 4		meaning, not mere	
			capability	
	'510 Patent, Claim			
	21, 22			
specifying a maximum	'882 Patent, Claims	Defendants	Plain and ordinary	
number of bytes of	9, 13		meaning	
memory that are				
available to be allocated	'048 Patent, Claims			
to [a/an	1, 5			
interleaver/deinterleaver]				

IV. Family 4

Claim Term	Patent and Claim(s)	Proposed By	Proposed Construction	Extrinsic Evidence
transceiver	'008 Patent, Claim 14	Defendants	Plain and ordinary meaning, which is "communications device capable of transmitting and receiving data"	Extrinsic Evidence: See Family 1
substantially scramble the phase characteristics of the plurality of carrier signals	'008 Patent, Claim 14	Plaintiff	Plain and ordinary meaning	
multiple carrier signals corresponding to the scrambled carrier signals are used by the first multicarrier transceiver to modulate the same bit value (identified by Defendants) / same bit value (identified by Plaintiff)	'008 Patent, Claim 14	Defendants and Plaintiff	Indefinite	
computing a phase shift for each carrier signal	'008 Patent, Claim 14	Defendants	computing the amount by which a phase is adjusted for each carrier signal	
combining the phase shift computed for each respective carrier signal with the phase characteristic of that carrier signal	'008 Patent, Claim 14	Defendants	adjusting the phase of each carrier signal by an amount computed for that carrier signal	

V. Family 6

Claim Term	Patent(s) and Claim(s)	Proposed By	Proposed Construction	Extrinsic Evidence
transceiver	'835 Patent, Claims 8,	Defendants	Plain and ordinary meaning,	Extrinsic Evidence: See
	24		which is "communications	Family 1
			device capable of	
	'112 Patent, Claims 8,		transmitting and receiving	
	10, 11, 12, 14		data"	
FIP setting	'835 Patent, Claims 8,	Defendants	forward error correction and	ITU-T G992.3 Standard
	10, 24, 26		interleaver parameters	
			characterized by the set of	
	'112 Patent, Claim 8		parameters for codeword	
			size in bytes, number of	
			information bytes in a	
			codeword, number of parity	
			or redundancy bytes in a	
			codeword, and interleaver	
			depth in number of	
			codewords	
FIP value	'835 Patent, Claims 8, 24	Defendants	numerical value of	ITU-T G992.3 Standard
			codeword size in bytes,	
			number of information bytes	
			in a codeword, number of	
			parity or redundancy bytes in	
			a codeword, or interleaver	
			depth in number of	
CI · 1	1025 D Cl	D.C. 1	codewords	
flag signal	'835 Patent, Claims 8, 24	Defendants and	signal used to indicate when	
	2160 P 4 4 60 1 1 0 0	Plaintiff	updated FIP settings are to	
	'162 Patent, Claims 8, 9		be used	

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interleaver parameter	'835 Patent, Claims 10,	Defendants	the numerical value of the	
value	26		interleaver depth in number	
			of codewords	
	'162 Patent, Claim 8			
11	1112 D	D 0 1	D	
operable to	'112 Patent, Claim 8	Defendants	Plain and ordinary meaning,	
			not mere capability	
configured to	'162 Patent, Claim 8	Defendants	Plain and ordinary meaning,	
			not mere capability	
steady-state	'112 Patent, Claim 8	Plaintiff	the state of the transceiver	
communication	'835 Patent, Claim 8 and		reached after all	
	24		initialization and training is	
			completed in which user data	
			is transmitted or received	

VI. Family 9

Claim Term	Patent(s) and Claim(s)	Proposed By	Proposed Construction	Extrinsic Evidence
transceiver	'411 Patent, Claims 10, 11, 17, 18, 19, 25 '577 Patent, Claims 16, 17, 30, 31, 37, 38, 53, 54 '348 Patent, Claims 1, 3, 9, 11 '055 Patent, Claims 11, 17, 19 '4473 Patent, Claims 1, 3 '809 Patent, Claims 1, 3, 4, 6, 8, 10, 11, 13, 15, 17, 18, 20, 22, 24, 25, 27	Defendants	Plain and ordinary meaning, which is "communications device capable of transmitting and receiving data"	See Family 1
operable to	'577 Patent, Claims 16, 17, 30, 31, 38, 53, 54 '348 Patent, Claims 1, 3, 9, 11 '055 Patent, Claim 11 '4473 Patent, Claims 1, 3	Defendants	Plain and ordinary meaning, not mere capability	

PTM-TC [(Packet Transfer Mode- Transmission Convergence)] codewords	'577 Patent, Claims 16, 37 '348 Patent, Claims 1, 9 '055 Patent, Claim 17	Defendants	Indefinite	ITU-T G.993.1 VDSL1 Standard ITU-T G.993.2 VDSL2 Standard
wherein the transceiver is operable to receive at least one retransmitted packet using interleaving	'577 Patent, Claims 17, 31	Defendants	Indefinite	ITU-T G.993.1 VDSL1 Standard ITU-T G.993.2 VDSL2 Standard
DMT symbol	'348 Patent, Claims 1, 9 '4473 Patent, Claim 1 '809 Patent, Claims 1, 8, 15, 22	Defendants	Plain and ordinary meaning	
wherein the instructions further cause the transceiver to retransmit the packet using forward error correction decoding and deinterleaving.	'809 Patent, Claim 24	Defendants	Indefinite	ITU-T G.993.1 VDSL1 Standard ITU-T G.993.2 VDSL2 Standard
memory has been allocated	'411 Patent, Claim 10	Defendants	Plain and ordinary meaning	
[transmit / transmitting / retransmit / retransmitting / receive / receiving] [by the	'577 Patent, Claims 16, 30, 37, 38, 53, 54 '348 Patent, Claims 1, 3, 9,	Defendants	Indefinite	ITU-T G.993.1 VDSL1 Standard

transceiver] [at least one	11			ITU-T G.993.2 VDSL2
packet / a packet / the				Standard
packet / a retransmitted	'4473 Patent, Claims 1, 3			
packet / a message / a	1,701 4,011, 014,111,011,01			
plurality of messages /	'809 Patent, Claims 1, 3, 8,			
at least one message]	10, 15, 17, 22, 24			
using [interleaving /	, , , , ,			
deinterleaving / (a/the)				
forward error correction				
encoder / (a/the)				
forward correction				
decoder / forward				
correction encoding /				
forward correction				
decoding] [and (an/the)				
interleaver / and (a/the)				
deinterleaver / and				
interleaving / and				
deinterleaving]				
higher immunity to	'348 Patent, Claims 2 and	Plaintiff	Plain and ordinary meaning	
noise	9			
	'809 Patent, Claims 1, 9,			
	16, 23			

VII. Family 10

Claim Term	Patent(s) and Claim(s)	Proposed By	Proposed Construction	Extrinsic Evidence
receive a first plurality of bits on the first plurality of carriers using a first SNR margin; receive a second plurality of bits on the second plurality of carriers using a second SNR margin	'354 Patent, Claim 10	Defendants	Indefinite (§ 112 ¶ 2)	
A multicarrier communications transceiver operable to receive a multicarrier symbol comprising a first plurality of carriers	'354 Patent, Claim 10	Defendants	Indefinite (§ 112 ¶ 2)	
wherein the first SNR margin provides more robust reception than the second SNR margin	'354 Patent, Claim 10	Defendants	Indefinite (§ 112 ¶ 2)	
operable to demodulate for reception a first plurality of bits from a first carrier	'988 Patent, Claim 16	Defendants	Indefinite (§ 112 ¶ 2)	
operable to	'354 Patent, Claim 10 '988 Patent, Claim 16	Defendants	Plain and ordinary meaning, not mere capability	
transceiver	'354 Patent, Claim 10 '988 Patent, Claim 16	Defendants	Plain and ordinary meaning, which is "communications device capable of transmitting and receiving	Extrinsic Evidence: See Family 1

			data"	
Signal to Noise Ratio (SNR) Margin; SNR Margin	'354 Patent, Claims 10, 11, 12 '988 Patent, Claim 16	Defendants	"a parameter used in determining the number of bits allocated to each of a plurality of carriers, where the value of the parameter specifies an extra SNR requirement assigned per carrier in addition to the SNR required to maintain a specified bit error rate (BER) for the communication link at	
			a specified bit allocation"	